

CHAPTER FOUR

—BRIEFING, DAY THREE—

Jekotian Military Engineering Test Site, Undisclosed Location, Ghant Plains July 14th, 2985

“FIRE IN THE HOLE,” an engineer shouted over the sites speakers as he pressed the detonator. Moments later, a Brenodi landmine in front of a Jekotian heavy tank detonated. It was an ABSRE armour demonstration for officials from High Command. Once the debris had cleared, the engineer took the officials outside to show the results to them.

“As you can see,” the engineer began, “the front plating where this heavy tank was hit has taken little damage, faired better than most armour. If you look closely, you will see how the reactive components have become dominant in the vicinity of the blast, while the rest of the armour is still neutral, frozen between reactive and absorbent states.”

ABSRE armour, a hybrid of absorbent and reactive armour, was a revolutionary new armour technology finishing its testing stages. Utilizing the electrical sensors and hardware integrated in reactive plating, and modifying it with biological materials, the circuitry analyzes the velocity and angle of a projectile zero point two-five centimetres before impact. The onboard software then initiates a rapid chemical reaction, which causes the armour to undergo a permanent state change, to either absorbent or reactive, depending on the projectile detected.

“My lord, that’s remarkable. I’ve never seen a tank take so little damage from a modern landmine. How heavy is this per inch-plate,” Lieutenant Commander Skeer asked. Jack was a scientific engineering major from the Ronan University of Scientific Engineering, now working as an engineer in the Jekotian Military Engineering Corps. He carefully thought out his reply.

“In its neutral state, it’s slightly heavier than standard reactive armour, but it changes depending on its state. The absorbent sections become fibrous and light, while the reactive portions remain unchanged, remaining at the same weight. On top of that, there’s approximately four point six pounds of hardware to operate the armour, as well as an additional half pound of EMP shielding to prevent the armour shutting down in an EMP blast,” Jack replied.

“However,” he continued, “ABSRE plating is highly volatile near any fission based technology, except the SZF reactor. Our scientists don’t yet fully understand why, but when near the fissile materials that are commonly used in heated fission-based technology, the armour experiences a violent deformational and explosive reaction. This, more often than not, renders the armour plating absolutely useless, making the vehicle and crew vulnerable to a single explosive shell. Due to this issue, the transportation and use of nukes in this operation will have to be rare, with authorization coming directly from High Command, as well as the complete restriction of standard fission reactors,” he finished.

“This SZF reactor, what does that stand for, what does it do,” Skeer asked.

“It stands for Sub Zero Fission reactor. By injecting liquid nitrogen into the fuel cell, it’s capable of maintaining temperatures below zero degrees Celsius. The liquid nitrogen has an interesting property; the more energy applied to it the more it expands and cools. Literally, the more energy the engine outputs, cooler it runs. The effects of the fissile materials used to initiate fission, particularly the effects that render ABSRE useless, seem to be blocked by these arctic temperatures, making it the safest and most effective engine to use with ABSRE armour plating. Its horsepower and acceleration exceed standard fission reactors and three-phase electric-motors, respectively, and produce heat levels lower than that of a coolant based engine. The drawback is that if the liquid nitrogen supply runs dry with the engine operational, the heat created by the engine will increase exponentially, and result in an atomic blast. On average, this engine can run for eight hours from a two litre supply of liquid nitrogen,” Jack replied.

“Remarkable. And this technology, except when the liquid nitrogen supply runs dry, is perfectly safe,” Skeer asked, an eyebrow raised.

“Unless you open the engine compartment and climb in, yes,” Jack replied with a chuckle.

A few hours later, after sharing all of the technical specifications of the SZF reactor with the officials from High Command, they arrived at a field. It was mostly clear, with a few lightly wooded areas. There was a course marked out with pylons, and what appeared to be wooden targets scattered around the course. Jack activated the radio pack on his belt and said,

“Bill, start the test please.”

For a few seconds nothing happened, just silence. Growing impatient, Borden asked, “What the hell are we wait-” Before Borden could finish, he was cut off by the low roar of an engine, and machinegun fire. Moments later, as everyone looked farther up the track, trying to find the source of the noise, a jeep fishtailed around a corner coming into view. As wooden targets popped up, the driver called out their locations to the gunner, who fired controlled bursts, obliterating the wooden targets. As they drew near the officials from High Command, it was clear that they were enjoying themselves. The driver had a grin on his face, and the gunner let out a laugh every time he hit a target. In the next stretch was a complex obstacle course, consisting of water hazards, wreckage, fires, uneven muddy terrain, and a thirty degree upward slope littered with debris. The entire course was just over a kilometre long, and the two soldiers completed it in approximately five minutes, with only eight of the one-hundred targets missed. Shortly after, Jack led everyone to the end of the course, where the jeep sat empty.

“I take it this is the Sidewinder,” Borden asked Jack with a smile. Jack replied,

“Yes, sir. This is the production ready model. The manufacturing specifications were finished and sent to the plants earlier today. There should be a few hundred ready before the battle group deploys to Bren.”

The Sidewinder had an angular front end that sloped outward into the main cab. Inside the cab was seating for two, as well as a room for a gunner to stand behind the seats and use the ring-mounted machine gun on the roof. Behind the cab sat the massive engine. Jack said,

“The Sidewinder is the most effective rapid assault vehicle ever produced by Jekotia. The machinegun mount on the roof is capable of holding anything from a light machinegun, to a

chaingun, to a depleted-uranium armour-piercing machinegun, or even a rocket launcher. The steering is very responsive, easy to control, and the suspension is tensioned to make it easy to traverse any terrain, without sacrificing manoeuvrability. The engine, a custom electrical-bio-diesel hybrid, powers all four wheels, and can achieve a max speed of three-hundred kilometres-per-hour, with an acceleration rate of approximately fifty kilometres-per-hour per three seconds. The gearbox is designed to allow both automatic and manual gear shifting, and the emergency brake can bring the Sidewinder from full speed to a full stop in eight seconds. The entire vehicle is fit with composite armour as standard, so it's light yet durable."

"Very impressive," Borden responded.

"So, I take it that Sidewinder allocation is now under the Armoured Corps. Jurisdiction," Skeer asked Jack.

"No, sir," Jack responded, "Due to the Sidewinder being a light rapid assault vehicle, it falls to the Infantry Corps. It will be their main assault platform."

"Ah, well, you can't win them all. Sure looks fun to drive though," Skeer replied, disappointment creeping into his voice.

Ten minutes later, they all arrived at the final test site for the day. Waiting for them were two soldiers in what appeared to be heavy combat gear, and farther down the range, captured Brenodi armour. As they drew near, the soldiers saluted.

"At ease," Patterson told them, "Jack, what are we looking at here, then?"

"This is the Man-Portable Railgun, or MPRG for short. The design is based off of tank based railguns, but fires a lower calibre 80mm armour-piercing shell. It is carried and operated by two people. One person carries the barrel, and the other the shells and hardware. Assembly and operation is simple. Privates, a demonstration of assembly please,"

The two soldiers quickly worked together to first remove the barrel from ones back, and then fit it to the base, which was easily removed from the bottom of the others munitions backpack. The barrel appeared to be nothing more than a matte black tube. The base, however, was a different story. A three prong clamp attached to the bottom of the barrel, which was attached to a tripod. Mounted on the tripod was a very confusing looking computer console, approximately ten inches wide, with wires flowing everywhere. Attached to the back of the console was battery pack. Once assembled, the soldiers stepped aside so that the officials from High Command could see. Jack continued,

"To operate the MPRG you have one soldier in front of the tripod, either standing or crouching, and using the viewfinder to aim it. The other soldier takes position at the back. They load the shells into the rear, and use the console to adjust the shell velocity to match the target range. The MPRG is loaded by pushing a shell onto the magnetically charged rails at the back; the hardware takes care of the rest. It can fire as fast as it is loaded."

"Very impressive," Borden replied, "I trust there is a demonstration planned?"

"Yes, of course sir," Jack replied, "Privates, you may start the test."

The two soldiers nodded and moved to operating positions. Within seconds, they were hitting a Brenodi AFV at twenty-five meters, and after the third shell, it promptly exploded due to munitions cook-off. They then shifted fire to a moving Brenodi heavy tank at fifty meters. Out of the eleven shells fired at it, three missed, but the remaining eight made contact, destroying its turret, and jamming the tracks on its left.

“Very impressive. Can I take one home with me,” Borden asked with a chuckle.

“No, but they went into full production last week. Should be in the hundreds by now,” Jack replied.

“Excellent. Thank you very much for your time, Jack, this will be very helpful in planning implementation of these technologies,” Patterson said, “Now then, lets take a break. Go around and find out any information you would specifically like while were here, we will meet in Conference Room Three in one hour.”